

Norphlet Report thru May 20, 2008

By Evert Talbot, Ronnie Jackson & Vic Forte

The Fluoromer team came to Norphlet on Monday and Tuesday of this week for meetings with Ronnie, Evert, Vic and David. The first phase of consulting basically concluded on Wednesday morning. They presented a very detailed report that included the following:

- PID's -- Process Flow Diagrams
- P&ID's -- Process and Instrumentation Drawings
- Equipment List & Details
- Reactor details
- Column details
- Data References

Also included was an overview and diagnosis of why the Norphlet plant would not run as built. Their conclusion was that the plant could not have made on spec 134a or hydrochloric acid. Expected rates of 30,000,000 pounds per year were not achievable.

We spent considerable time going over all of the details for both the gas phase proposal and the liquid phase. It appears that if we continue to pursue the liquid phase on the front end of the plant, then we possibly can utilize more of the existing equipment.

However, there are still unknowns in dealing with liquid phase such as build up of heavies in the catalyst which will have to be removed.

Here are some of the relative differences in Gas Phase front end Vs. Liquid Phase front end

Gas Phase

- More capacity to hit the 25M to 30M pound range
- Much higher temperature operating rates-- 320C vs. 90C
- Far less tars & heavies to dispose of
- Higher energy cost on gas by 1 to 2 cents per pound of 134a
- Slightly higher Reactor cost
- Higher catalyst cost; estimated at 4 to 6 months or longer per likubor
- ~~Gas phase is much safer to operate~~
- Better conversion rate on Gas vs. Liquid (98 to 99% vs 95 to 96%)
- Time to spec out, engineer and build (liquid vs. gas) is about the same.
- More cooling capacity required

The Fluoromer Group has given us about 95% of what was required in their consulting contract as of Wednesday morning. After bringing this first phase to completion, Ronnie will be contacting several Engineering Companies in both Ruston and possibly Baton Rouge, Louisiana. He will negotiate and select one of these engineering firms for this phase of the rebuilding project. It is anticipated that this stage will take at least 6 to 8 weeks for completion after the Engineering firm is chosen.

The selected engineering will be furnishing us with sufficient engineering drawings and detail in order to get a definitive cost estimate. This cost estimate and report will then be presented to the Norphlet Board for final approval of the project and selected options. Once approved

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then we will proceed with the engineering documentation necessary for construction. These documents will be submitted to contractors and/or vendors for final bidding based on a project execution plan. Once a contractor is chosen and an execution plan agreed upon, then we will proceed with the changes according to the documented project schedule and cost.

The final test runs on liquid phase are being completed this week and next in Denver which will document the final test conclusions from the liquid phase runs.

Please understand liquid phase with modifications has not been ruled out at this time. We simply must wait until the final cost estimates are in before making a decision.

EVERETT, RONNIE & VIC